AMENDMENTS TO THE CLAIMS

Please amend claims 1, 3, 4, 8, 11, 14 and 17 as follows:

1. **(Currently Amended).** A method for gray level dynamic switching, applied to a display with a pixel, comprising the following steps:

providing a gray level sequence SG, wherein SG sequentially represents two or more desired gray levels ~~Go(1)~~$\underline{G_0(1)}$,...,~~Go(T)~~$\underline{G_0(T)}$ of the pixel at consecutive time frames 1,...,T and comprises a current gray level ~~Go(t)~~$\underline{G_0(t)}$ and a previous gray level ~~Go(t-1)~~$\underline{G_0(t\text{-}1)}$ corresponding to time frames t and t-1, respectively, and ~~Go(t)~~$\underline{G_0(t)}$ corresponds to a driving voltage ~~Vo(t)~~$\underline{V_0(t)}$ to present ~~Go(t)~~$\underline{G_0(t)}$ under a static condition; and

determining an optimized driving voltage ~~Vd(t)~~$\underline{V_d(t)}$, according to an equation $\cancel{Vd(t) = Vo(t-1) + ODV}$ $\underline{V_d(t) = V_o(t-1) + ODV}$, wherein the ODV is a minimum voltage capable of obtaining one gray level transition in a determined response time;

determining ~~an~~ **a** dynamic gray level data $G_d(t)$ according to an equation $\cancel{Vd(t) = a \times Gd(t)^3 + b \times Gd(t)^2 + c \times Gd(t) + d}$

$\underline{V_d(t) = a \times G_d(t)^3 + b \times G_d(t)^2 + c \times G_d(t) + d}$;

producing the optimized driving voltage ~~Vd(t)~~$\underline{V_d(t)}$ according to the dynamic gray level data $G_d(t)$;

driving the pixel with **the** optimized driving voltage ~~Vd(t)~~$\underline{V_d(t)}$ to change the **pixel** forward ~~pixel~~ to a state corresponding to $G_o(t)$.

2. **(Original).** The method as claimed in claim 1, wherein a is -0.0004, b is 0.0037, c is -0.1443, and d is 8.6992.

3. **(Currently Amended).** The method as claimed in claim 1, wherein, in positive frame, the polarity of the voltage ODV is positive when ~~**Go(n)**~~**$\underline{G_0(t)}$** > ~~**Go(n-1)**~~**$\underline{G_0(t-1)}$** and negative when ~~**Go(n)**~~**$\underline{G_0(t)}$** < ~~**Go(n-1)**~~**$\underline{G_0(t-1)}$**.

4. **(Currently Amended).** The method as claimed in claim 1, wherein, in negative frame, the polarity of the voltage ODV is negative when ~~**Go(n)**~~**$\underline{G_0(t)}$** > ~~**Go(n-1)**~~**$\underline{G_0(t-1)}$** and positive when ~~**Go(n)**~~**$\underline{G_0(t)}$** < ~~**Go(n-1)**~~**$\underline{G_0(t-1)}$**.

5. **(Original).** The method as claimed in claim 1, wherein the display is a liquid crystal display.

6. **(Original).** The method as claimed in claim 1, further comprising a step of adjusting the voltage ODV according to an operating temperature.

7. **(Original).** The method as claimed in claim 6, wherein the voltage ODV is inversely proportional to the operating temperature.

8. **(Currently Amended).**An apparatus for gray level dynamic switching, applied to drive a display with a pixel, comprising:

a memory set for storing a previous gray level $G_0(t-1)$, $G_0(t-1)$ representing the desired gray level of the pixel at time frame t-1, and $G_0(t-1)$ corresponding to a driving voltage $V_0(t-1)$ to present $G_0(t-1)$ under a static condition;

a processor for determining an optimized driving voltage ~~**Vd(t)**~~**$\underline{V_d(t)}$** according to a current gray level $G_0(t)$and an equation $\cancel{Vd(t) = V_o(t-1) + ODV}$ $\underline{V_d(t) = V_o(t-1) + ODV}$, and determining ~~**an**~~ **a** dynamic

gray level data $G_d(t)$ according to an equation ~~$Vd(t) = a \times G_d(t)^3 + b \times G_d(t)^2 + c \times G_d(t) + d$~~

$\underline{Vd(t) = a \times Gd(t)^3 + b \times Gd(t)^2 + c \times Gd(t) + d}$, wherein ~~**Go(t)**~~**$\underline{G_o(t)}$** represents the desired level of the pixel at time frame t, the voltage ODV is a minimum voltage capable of obtaining one gray level transition in a determined response time, a is -0.0004, b is 0.0037, c is -0.1443, and d is 8.6992; and

a driving circuit for receiving $G_d(t)$ and correspondingly generating the optimized driving voltage ~~**Vd(t)**~~**$\underline{V_d(t)}$** to drive the pixel to change the **<u>pixel</u>** forward ~~**pixel**~~ to a current state corresponding to $G_o(t)$.

9. **(Original)**. The apparatus as claimed in claim 8, wherein, in positive frame, the polarity of the voltage ODV is positive when $G_o(t) > G_o(t-1)$ and negative when $G_o(t) < G_o(t-1)$.

10. **(Original)**. The apparatus as claimed in claim 8, wherein, in negative frame, the polarity of the voltage ODV is negative when $G_o(t) > G_o(t-1)$ and positive when $G_o(t) < G_o(t-1)$.

11. **(Currently Amended)**.The apparatus as claimed in claim 8, wherein the processor further adjusts ~~**$G_d(t)$**~~**<u>the voltage ODV</u>** according to an operating temperature.

12. **(Original)**. The apparatus as claimed in claim 11, wherein the voltage ODV is inversely proportional to the operating temperature.

13. **(Original)**. The apparatus as claimed in claim 8, wherein the memory set is a set of dynamic random access memories (DRAM).

14. **(Currently Amended)**. A display system, comprising:

a display, having at least one pixel;

a memory for storing a program;

a processor for executing, according to a program in the memory, the following steps:

receiving an original gray level sequence S_o consisting of two or more original gray levels $G_o(1),\ldots,G_o(T)$, wherein a current gray level $G_o(t)$ and a previous gray level $G_o(t-1)$ correspond to time frames t and t-1, respectively, and $G_o(t-1)$ corresponds to a driving voltage $V_o(t-1)$ to present $G_o(t-1)$ under a static condition;

transforming S_o to an adjusted gray level sequence S_d consisting of two or more adjusted gray levels $G_d(1),\ldots,G_d(M)$, an adjusted gray level $G_d(m)$ being generated according to a relevant sub-sequence comprising $G_o(t-1)$ and $G_o(t)$, wherein an optimized driving voltage ~~Vd(t)~~$\underline{V_d(t)}$ is determined according to the $G_o(t)$and an equation $\cancel{Vd(t)=V_o(t-1)+ODV}$ $\underline{V_d(t)=V_o(t-1)+ODV}$, and the adjusted gray level $G_d(m)$ is determined according to an equation $\cancel{Vd(t)=a\times G_d(m)^3+b\times G_d(m)^2+c\times G_d(m)+d}$ $\underline{V_d(t)=a\times G_d(m)^3+b\times G_d(m)^2+c\times G_d(m)+d}$, wherein the voltage ODV is a minimum voltage capable of obtaining one gray level transition in a determined response time, a is -0.0004, b is 0.0037, c is -0.1443, and d is 8.6992; and

sequentially driving the pixel with driving forces corresponding to $G_d(1),\ldots,G_d(M)$ in S_d.

15. **(Original)**. The system as claimed in claim 14, wherein, in positive frame, the polarity of the voltage ODV is positive when $G_o(t) > G_o(t-1)$ and negative when $G_o(t) < G_o(t-1)$.

16. **(Original)**. The system as claimed in claim 14, wherein, in negative frame, the polarity of the voltage ODV is negative when $G_o(t) > G_o(t-1)$ and positive when $G_o(t) < G_o(t-1)$.

17. **(Currently Amended)**. The system as claimed in claim 14, wherein the program in the memory adjusts the ~~Gd(t)~~**voltage ODV** according to an operating temperature.

18. **(Original)**. The system as claimed in claim 17, wherein the voltage ODV is inversely proportional to the operating temperature.